TITLE 326 AIR POLLUTION CONTROL DIVISION

SECOND NOTICE OF COMMENT PERIOD
LSA Document #19-576

BP WHITING REFINERY TEMPORARY ALTERNATIVE OPACITY LIMITATIONS

PURPOSE OF NOTICE

The Indiana Department of Environmental Management (IDEM) is soliciting public comment on amendments to rules at 326 IAC 5-1-8 concerning a temporary alternative opacity limitation (TAOL) for BP Whiting Refinery located in Lake County, Indiana. IDEM seeks comment on the affected citations listed and any other provisions of Title 326 that may be affected by this rulemaking.

HISTORY

First Notice of Comment Period: November 20, 2019, Indiana Register (DIN: 20191120-IR-326190576FNA).

CITATIONS AFFECTED: 326 IAC 5-1-8.

AUTHORITY: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11.

SUBJECT MATTER AND BASIC PURPOSE OF RULEMAKING

Basic Purpose and Background

BP Products North America, Inc. owns and operates a petroleum refinery in Lake County, Indiana (Whiting Refinery, source ID 089-00453). The Whiting Refinery operates two fluidized catalytic cracking units (FCUs) to convert hydrocarbons that boil above 500°F into lower molecular weight products. These products include gasoline and liquefied petroleum gas (LPG). The cracking takes place as the gas oil and catalyst stream mix in the reactor. This process results in the catalyst being coated with coke that is subsequently burned off in a regenerator, which is a source of air emissions. These FCUs are equipped with electrostatic precipitators (ESP) for control of particulate matter emissions. The FCUs are subject to temporary alternative opacity limitations under 326 IAC 5-1-3 that generally apply to boilers when building a new fire, or shutting down, as identified in the current Title V operating permit. It is difficult for the FCUs to meet these standards during startup, shutdown, and hot standby events due to the high risk for explosion when emissions from the FCUs are routed through an active ESP. The opacity limits in 326 IAC 5-1-3 are specific to startup and shutdown as other opacity requirements in federal New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) are also applicable to these units.

Due to the safety concerns with operating the ESP during these nonroutine operating scenarios, BP has requested that IDEM amend 326 IAC 5-1-8 for both FCUs to provide for an alternative compliance option to meeting the opacity limitations in 326 IAC 5-1-3. BP requested an alternative compliance option for the FCUs that relies on a minimum inlet velocity to the primary internal cyclone of 20 feet per second (fps), similar to requirements allowed by the United States Environmental Protection Agency (U.S. EPA) in the NESHAP at 40 CFR 63, Subpart UUU. Supporting documentation for the NESHAP indicates that commenters during the federal rulemaking expressed concern with fire and explosion unless ESPs are de-energized and bypassed during certain startup scenarios, in which case a FCU would be unable to meet a proposed 30 percent opacity limit. Without information to determine an appropriate opacity limit, the U.S. EPA determined that a minimum internal cyclone inlet velocity requirement was more broadly applicable and would provide for particulate matter (PM) reductions during startup and shutdown periods. General provisions regarding opacity are included in the Indiana State Implementation Plan (SIP) as a surrogate for PM, although PM mass emissions and opacity do not always correlate well. BP continues to comply with PM mass emission limits and coke burn limitations as part of the SIP and federal rules.

Indiana's opacity rules at 326 IAC 5-1-3 allow a source to request a TAOL for periods of startup or shutdown. IDEM is reviewing available information to establish a TAOL in 326 IAC 5-1-8 that will ensure that the TAOL will not impact maintenance of the National Ambient Air Quality Standards (NAAQS). This rule will also ensure compliance with rule drafting guidelines, and update to streamline, simplify, and clarify the language within 326 IAC 5-1-8. The TAOL will be submitted to the U.S. EPA as a SIP revision. In order to remain compliant during this rulemaking, BP requested a variance from 326 IAC 5-1-3 during startup, shutdown, and hot standby events.

IDEM seeks comment on the affected citations listed, including suggestions for specific language, any other provisions of Title 326 that may be affected by this rulemaking, and alternative ways to achieve the purpose of the rulemaking.

IC 13-14-9-4 Identification of Restrictions and Requirements Not Imposed under Federal Law

No element of the draft rule imposes either a restriction or a requirement on persons to whom the draft rule

applies that is not imposed under federal law.

Potential Fiscal Impact

This rulemaking will have a positive fiscal impact on the source. This rulemaking is site specific to one source and will not impact any other sources. The revision of the opacity limitations during startup, shutdown, and hot standby events will benefit the source by reducing the explosion risk from operation of the ESP control device during this unique operating scenario. A fire or explosion could result in injury to personnel, damage to equipment, or in shutdown of the facility resulting in a financial impact on the company due to medical costs, lost productivity, clean-up costs, and the need to address environmental and health impacts on the surrounding community.

Public Participation and Work Group Information

At this time, no work group is planned for the rulemaking. If you feel that a work group or other informal discussion on the rule is appropriate, please contact Krystal Hackney, Rules Development Branch, Office of Legal Counsel at (317) 232-3158 or (800) 451-6027 (in Indiana).

SUMMARY/RESPONSE TO COMMENTS FROM THE FIRST COMMENT PERIOD

IDEM requested public comment from November 20, 2019, through December 20, 2019, on alternative ways to achieve the purpose of the rule and suggestions for the development of draft rule language. IDEM received no comments in response to the First Notice of Comment Period.

REQUEST FOR PUBLIC COMMENTS

This notice requests the submission of comments on the draft rule language, including suggestions for specific revisions to language to be contained in the draft rule. Comments may be submitted in one of the following ways:

(1) By mail or common carrier to the following address:
LSA Document #19-576 BP Whiting Refinery TAOL
Krystal Hackney
Rules Development Branch
Office of Legal Counsel
Indiana Department of Environmental Management
Indiana Government Center North
100 North Senate Avenue
Indianapolis, IN 46204-2251

(2) By facsimile to (317) 233-5970. Please confirm the timely receipt of faxed comments by calling the Rules Development Branch at (317) 232-8922.

(3) By electronic mail to khackney1@idem.in.gov. To confirm timely delivery of submitted comments, please request a document receipt when sending the electronic mail. **PLEASE NOTE: Electronic mail comments will NOT be considered part of the official written comment period unless they are sent to the address indicated in this notice.**

(4) Hand delivered to the receptionist on duty at the thirteenth floor reception desk, Office of Legal Counsel, Indiana Government Center North, 100 North Senate Avenue, Indianapolis, Indiana.

Regardless of the delivery method used, to properly identify each comment with the rulemaking action it is intended to address, each comment document must clearly specify the LSA document number of the rulemaking.

COMMENT PERIOD DEADLINE

All comments must be postmarked, faxed, or time stamped not later than March 12, 2021. Hand-delivered comments must be delivered to the appropriate office by 4:45 p.m. on the above-listed deadline date.

Additional information regarding this action may be obtained from Krystal Hackney, Rules Development Branch, Office of Legal Counsel, (317) 232-3158 or (800) 451-6027 (in Indiana).

DRAFT RULE

SECTION 1. 326 IAC 5-1-8 IS AMENDED TO READ AS FOLLOWS:

326 IAC 5-1-8 Site-specific temporary alternative opacity limitations

Authority: IC 13-14-8; IC 13-17-3
Affected: IC 13-17

Sec. 8. **(a) If the commissioner has approved a temporary alternative opacity limitation for a source in accordance with section 3(d) of this rule, the source may comply with the site-specific temporary**

alternative opacity limitations applicable to the source in accordance with this section.

(b) In accordance with section 3(d) of this rule, Indiana Michigan Power Company (dba American Electric Power) Rockport Units #1 and #2, located in Spencer County, when burning fuels identified in section 3(d)(1) of this rule shall comply with the following temporary alternative opacity limitations:

(1) When building a new fire in a boiler, opacity may exceed the applicable limitation established in section 2 of this rule for a period not to exceed a total of two (2) hours (twenty (20) six (6) minute averaging periods) during the startup period, or until the flue gas temperature reaches two hundred fifty (250) degrees Fahrenheit at the inlet of the electrostatic precipitators, whichever occurs first.

(2) When shutting down a boiler, opacity may exceed the applicable limitation established in section 2 of this rule once the flue gas temperature has dropped below two hundred fifty (250) degrees Fahrenheit at the inlet of the electrostatic precipitators for a period not to exceed a total of one and one-half (1.5) hours (fifteen (15) six (6) minute averaging periods) during the shutdown period.

(c) As an alternative to complying with the opacity limitations in section 3 of this rule, BP Products North America, Inc. (BP), source ID 089-00453, may comply with the following temporary alternative opacity limitation requirements for the fluidized catalytic cracking units (FCU) 500 and FCU 600:

(1) During periods of startup, shutdown, or hot standby at FCU 500 or FCU 600, BP shall maintain the inlet velocity to the primary internal cyclones of the respective catalytic cracking unit catalyst regenerator at or above twenty (20) feet per second.

(2) BP shall demonstrate compliance with this subsection as follows:

(A) Collect the volumetric flow rate from the catalyst regenerator, in actual cubic feet per minute (acfm), and determine the average flow rate for:

(i) each hour; or

(ii) the duration of the event for events lasting less than one (1) hour.

(B) Determine the cumulative cross-sectional area of the primary internal cyclone inlets in square feet by one (1) of the following methods:

(i) Use design drawings of the primary internal cyclones to determine the inlet cross-sectional area of each primary internal cyclone, and the sum of the cross-sectional areas for all primary internal cyclones in the catalyst regenerator.

(ii) If all primary internal cyclones are identical, determine the inlet cross-sectional area of one (1) primary internal cyclone using design drawings and multiply the area by the total number of primary internal cyclones in the catalyst regenerator.

(C) Calculate the inlet velocity to the primary internal cyclones in feet per second by:

(i) dividing the average volumetric flow rate (in acfm) by the cumulative cross-sectional area of the primary internal cyclone inlets in square feet; and

(ii) converting to feet per second.

(D) Maintain the inlet velocity to the primary internal cyclones at or above twenty (20) feet per second for:

(i) each hour during the startup, shutdown, or hot standby event; or

(ii) the duration of the event for events lasting less than one (1) hour.

(3) BP shall document compliance with the alternative in this subsection by maintaining the following records:

(A) Records of flow rates including the:

(i) volumetric flow rate from the catalyst regenerator (in acfm);

(ii) average flow rate for each hour; and

(iii) average flow rate during an event for events lasting less than one (1) hour.

(B) The cumulative cross-sectional area of the primary internal cyclone inlets in square feet.

(C) The inlet velocity to the primary internal cyclones in feet per second.

(D) Records demonstrating compliance with applicable requirements of 40 CFR 63, Subpart UUU, Table 41* for the continuous parameter monitoring systems used to demonstrate compliance.

(E) The results of each inspection, calibration, and validation check for the continuous parameter monitoring systems used to demonstrate compliance.

(F) Actions taken to minimize emissions in accordance with 40 CFR 63.1570(c)* and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(G) The date, time, and duration of each startup, shutdown, or hot standby event.

***These documents are incorporated by reference. Copies may be obtained from the Government Publishing Office, www.gpo.gov, or are available for review at the Indiana Department of Environmental Management, Office of Legal Counsel, Indiana Government Center North, 100 North Senate Avenue,**

Thirteenth Floor, Indianapolis, Indiana, 46204.

(Air Pollution Control Division; 326 IAC 5-1-8; filed Nov 6, 2014, 10:00 a.m.: 20141203-IR-326120392FRA)

Notice of Public Hearing

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An html version of this document.